INTERNATIONAL CIVIL AVIATION ORGANIZATION
South American Regional Office

UNDP/ICAO REGIONAL PROJECT RLA/98/019
IMPLEMENTATION OF THE SOUTH AMERICAN DIGITAL NETWORK (REDDIG)

SIXTH MEETING OF THE COORDINATION COMMITTEE (RCC/6)

(Lima, Peru, 20 – 21 November 2003)

Agenda item 2: Report on activities implemented

REPORT ON THE ACTIVITIES CARRIED OUT UP TO DATE SINCE THE LAST MEETING OF THE COORDINATION COMMITTEE OF PROJECT RLA/98/019

(Paper presented by the Secretariat)

Summary

In this working paper, information on the activities carried out up to date since the fifth meting of the Coordination Committee of regional project RLA/98/019, Implementation of the South American Digital Network REDDIG (RCC/5) is being presented.

1. Activities developed by the project

1.1 Among the principal activities carried out by the project since the last coordination meeting (RCC/5), held from 26 to 28 May 2003, the following can be pointed out:

- Coordination for the provision of resources in the NCC of Lima;
- On-the-job training course (OJT);
- REDDIG start-up;
- Operation Manual; and
- Backup network.

2. **Coordination for the provision of resources in the Lima NCC**

2.1 Necessary steps were taken with the Aeronautical Administration of Peru in order to coordinate and formalize the provision of the necessary resources for the NCC operation. In this sense, the Aeronautical Administration of Peru, through CORPAC, provided four specialists exclusively dedicated to the NCC, starting the month of July 2003, with the purpose of supplying the service during 24 hours a day. In this regard, three shifts were conformed: from 07:00 to 13:00; from 13:00 to 21:00; and from 21:00 to 07:00 hours.

2.2 Likewise, and Office was supplied for the project expert in an adjoining room to the room were the equipment has been installed, providing the necessary furniture, telephones, computers and access to measurement instruments.

3. **On-the-job training course (OJT)**

3.1 During the RCC/5, the implementation of an on-the-job training was considered necessary, since during the two courses of the REDDIG imparted by the contractor during the first two months of 2003 much time was consumed in the presentations of the fundaments on which the REDDIG operation is based, due to the different levels of knowledge and experience of participants.

3.2 The on-the-job training course was carried out during August 2003, and it had as objective that participants acquire practical experience in the maintenance of the equipment conforming the REDDIG node, as well as node control center of the network (NCC).

3.3 The course was imparted in the premises of CIPE and the NCC located in the International Airport of Ezeiza, Buenos Aires, Argentina, in three groups. The first group was conformed by delegates from Argentina (3), Ecuador (1), and Uruguay (2); the second group was conformed by Argentina (2), Brazil (2), Chile (3), Colombia (1), Ecuador (1), France (2), Paraguay (1), and Venezuela (2); and the third group, Argentina (1), Bolivia (2), Brazil (4), Ecuador (1), Guyana (2), and Suriname (2). All States participated in the course, with the exception of Peru.

4. **REDDIG start-up**

4.1 Following the program of activities established during the RCC/5, after the on-the-job training, the project proceeded with the REDDIG start-up, through a program of transference of oral ATS and AFTN services.

4.2 To carry out this activity, it was necessary, in the first place, to confirm that all ATS oral communications services were available in the ATC rack of the CAAs. Next, starting 26 September 2003, dedicated and switched ATS oral services were transferred to the REDDIG.

4.3 Regarding AFTN service, final tests on AFTN communication between nodes were carried out, and, starting 29 September 2003, the available AFTN services started to be operated in the REDDIG.

4.4 Up to date, oral circuits and AFTN are being satisfactorily operated.

4.5 Likewise, as **Appendix A** to this working paper, a chart with the main failures in the REDDIG nodes up to 30 October 2003 is being presented, which shows the necessary actions to be taken by SEEE as well as by ICAO, in order to solve these failures. The chart does not indicates minor failures that were solved from the NCC.

5. **Operation manual**

5.1 The ad-hoc group conformed during the RCC/5 with the purpose of elaborating a first revision of the REDDIG Operation Manual, in coordination with the project (Conclusion RCC 5/4), elaborated a first document, which is being presented under agenda item 4 of this Meeting.

5.2 In order to complete said Manual, in **Appendix B** to this working paper, the missing information regarding the node operation technical form (RDG-TF-01) is being presented in a chart, information regarding if the "Operation & Maintenance Manual – Issue B/B1", which should have been supplied by the contractor SEEE, is available, in written and in electronic version, and the telephone numbering plan of the nodes (Preparation of the Telephone Directory of the REDDIG).

5.3 It is important to mention that States counterparts have been reiteratively requested, through e-mail and, in some cases, also through telephone calls, to send the necessary information. In this sense, it is expected that information of **Appendix B** be completed during the Meeting.

6. **Backup network**

6.1 The project has designed the backup network topology and configuration to provide coverage to the 15 nodes, following guidelines of the RCC/5 and having in consideration the facilities of the principal REDDIG network for the present and future services.

6.2 The backup network will have 9 nodes with ISDN backup, 4 nodes via dedicated circuits (Interface V35), and 2 nodes via VPN/IP.

6.3 The topology and configuration previously indicated has been presented to the contractor for the elaboration of the Mapping Table of the Backup Network, in order that the contractor present it for the approval of the Project Office and to be able to proceed with the backup network programming.

7. **Suggested action**

7.1 The meeting is invited:

a) To take note of the information being presented in this working paper;

b) The States to inform the present situation in each of the REDDIG nodes; and

c) To complete the chart being presented in **Appendix B**.

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APPENDIX A

EQUIPMENT FAILURE REPORT - 30 OCTOBER 2003					
#	**NODE**	**CHAIN**	**ITEM**	**SINCE**	**DESCRIPTION OF FAILURE AND REQUESTED ACTIONS**
1	**SPIM**	A	SUN-A	18-07-03	Computer in HALT with no access at all. This failure happened four times since then . Last time was in 21-09-03 As a result the NCC is relayed to SUN -B with no network communications for about 5 minutes. Reset was needed for SUN-A **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.3 and 10.3.1.6 c)** Solve the problem Make a complete diagnostic Update the unit with available patch(es) Configure and program fully operational a spare unit which would replace the current SUN-A Deliver at SPIM site a new SUN to replace the employed spare according to TSD 10.3.1.2 **ICAO's ACTIONS** Facilitate one spare SUN if available at site Send the failed unit to SEEE
		B	SUN-B	23-10-03	While in operation, progressively went too slow until the network nodes went into red alarm. **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.3 and 10.3.1.6 c)** Solve the problem Make a complete diagnostic Update the unit with available patch(es) Configure and program fully operational a spare unit which would replace the current SUN-A Deliver at SPIM site a new SUN to replace the employed spare according to TSD 10.3.1.2 **ICAO's ACTIONS** Facilitate one spare SUN if available at site Send the failed unit to SEEE
2	**SCEL**	B	MUX Dual Analog Voice I/O Card with: (2) E&M LID	00-06-03	One dual E&M analog voice card failed. **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.2** Replace the failed card Deliver at SCEL site a new card according to TSD 10.3.1.2 **ICAO's ACTIONS** Install the new card Send the failed unit to SEEE
3	**SEGU**	A	MODEM /BUC-SSP/	01-09-03	External Mute at BUC activated randomly ON. **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.3 and 10.3.1.6 c)** Solve the problem ICAO's ACTIONS Provide local support with verification of 10MHz reference signal

#	NODE	CHAIN	ITEM	SINCE	DESCRIPTION OF FAILURE AND REQUESTED ACTIONS
4	**SYGC**	A	MODEM-A	26-09-03	External Mute activated randomly ON. Modems "A" and "B" swapped and the external mute alarm went to BUC-SSPA "B". Problem focused in Modem "A" **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.2** Replace the failed unit Deliver at SYGC site a new unit according to TSD 10.3.1.2 **ICAO's ACTIONS** Install the new unit Send the failed unit to SEEE
5	**SAEZ**	A	MPS	20-08-03	Intermittent failure status. The equipment alarms in "yellow". During this status is not possible to get into it through the CX Access. The configuration script was reloaded but the alarm persists. **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.3 and 10.3.1.6 c)** Solve the problem Make a complete and deep diagnostic Replace the complete unit Deliver at SAEZ site a new complete unit according to TSD 10.3.1.2 **ICAO's ACTIONS** Install the new unit Send the failed unit to SEEE
		B	MPS	13-10-03	Intermittent failure status. The equipment alarms in "yellow". The configuration script was reloaded but the alarm persists. **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.3 and 10.3.1.6 c)** Solve the problem Make a complete and deep diagnostic Replace the complete unit Deliver at SAEZ site a new complete unit according to TSD 10.3.1.2 **ICAO's ACTIONS** Install the new unit Send the failed unit to SEEE
6	**SMPM**	B	BUC-SSPA	01-05-03	LNB replaced with new one but intermittent link loss continues. After tests, the problem is focused in BUC-SSPA - B **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.3 and 10.3.1.6 c)** Solve the problem Replace the unit Deliver at SMPM site a new unit according to TSD 10.3.1.2 **ICAO's ACTIONS** Install the new unit Send the failed unit to SEEE

#	NODE	CHAIN	ITEM	SINCE	DESCRIPTION OF FAILURE AND REQUESTED ACTIONS
7	**SBCT**	B	BUC-SSPA	01-09-03	Permanent yellow alarm. No readings from BUC nor SSPA at the Status Summary screen. After tests, the problem is focused in the internal M&C module of unit. **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.2** Replace the unit Deliver at SBCT site a new unit according to TSD 10.3.1.2 **ICAO's ACTIONS** Install the new unit Send the failed unit to SEEE
8	**SUMU**	B	MPS	22-10-03	Out of service. MPS's slow-blow fuses and associated rack fuse blown **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.2** Replace the unit Deliver at SPIM site a new unit according to TSD 10.3.1.2 and 10.3.1.4 as SPIM is to send to SUMU one unit **ICAO's ACTIONS** Install the new unit Send the failed unit to SEEE
9	**SBRF**	B	MUX Dual Analog Voice I/O Card with: (1) FXS and (1)E&M	23-10-03	FXS channel loses established communication after a couple of minutes. **ACTIONS REQUESTED TO SEEE IN ACCORDANCE WITH TSD 10.3.1.2** Replace the card Deliver at SBRF site a new unit card according to TSD 10.3.1.2 **ICAO's ACTIONS** Install the new card Send the failed card to SEEE

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APPENDIX B

Follow up on the information requested to the REDDIG nodes

NODE	Manual			Technical Form		Telephone List	
	YES	NO	NR	YES	NR	YES	NR
SAEZ Ezeiza	X			X		X	
SLLP La Paz			X		X		X
SBCT Curitiba		X		X		X	
SBMN Manaus	X			X		X	
SBRF Recife	X			X		X	
SCEL Santiago	X			X		X	
SKED Bogota	X			X		X	
SEGU Guayaquil	X			X			X
SOCA Cayenne	X			incomplete			X
SYGC Georgetown			X	X			X
SGAS Asuncion	X				X		X
SPIM Lima	X			X		X	
SMPM Paramaribo	X			X			X
SUMU Montevideo		X		X			X
SVMI Maiqueia			X	X			X